

JGC-4F

SOLID STATE RELAY



File No.: E133481



File No.: R2024431



File No.: CH0032705-2002A



Features

- DC input-AC output for 2A load at 25°C
- 600 Volt blocking voltage
- Photo isolation
- Built-in snubber
- Zero cross or random turn-on
- Printed circuit board mount

INPUT (TA = 25°C)

| | | |
|-----------------------|-----|-----------------|
| Control voltage range | 05D | 4 to 6VDC |
| | 12D | 9.6 to 14.4VDC |
| | 24D | 19.2 to 28.8VDC |
| Must operate voltage | 05D | 4VDC max. |
| | 12D | 9.6VDC max. |
| | 24D | 19.2VDC max. |
| Must release voltage | | 1.0VDC min. |
| Max. input current | | 10mA |

OUTPUT

| | | |
|-----------------------------------|--------------------|------|
| Load voltage range (@ 47 to 63Hz) | 75 to 264VAC | |
| Load current range | 0.1 to 2A | |
| Max. surge current (10ms) | 25Apk | |
| Max. leakage current | 1.5mA | |
| Max. on-state voltage drop | 1.5VAC | |
| Max. turn-on time | Zero cross turn-on | 10ms |
| | Random turn-on | 1ms |
| Max. turn-off time | 10ms | |
| Transient overvoltage | 600Vpk max. | |
| Min. off-state dv/dt | 100V/μs min. | |
| Zero-crossover voltage | ±15V max. | |
| Min. power factor | 0.5 | |

GENERAL

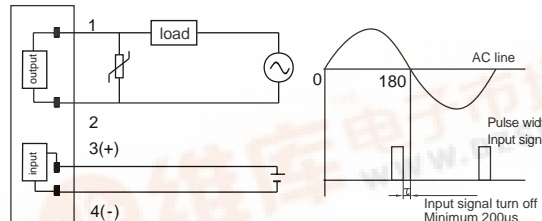
| | | |
|---------------------------------------|-----------------------------------|-----------------|
| Dielectric strength (input to output) | 2000VAC min., 50/60Hz 1min. | |
| Insulation resistance | 1000MΩ, min. (at 500VDC) | |
| Max. Capacitance (input to output) | 5pF | |
| Vibration durability | 10 to 55HZ Double amplitude 1.5mm | |
| Shock durability | 1000m/s ² | |
| Ambient temperature | Operating | -30°C to +80°C |
| | Storage | -30°C to +100°C |
| Ambient Humidity | 45% to 85% | |
| Unit weight | 6g | |

DESCRIPTION

This SPST-NO printed circuit board mount SIP SSR provides AC output switching in a high density package. The JGC-4F's DC input is compatible with 5, 12 and 24V logic systems. All models include an internal snubber. The relays provide 2000Vrms opto-isolation, between input and output. Encapsulation, thermally conductive epoxy.

PRECAUTIONS

1. Terminal arrangement



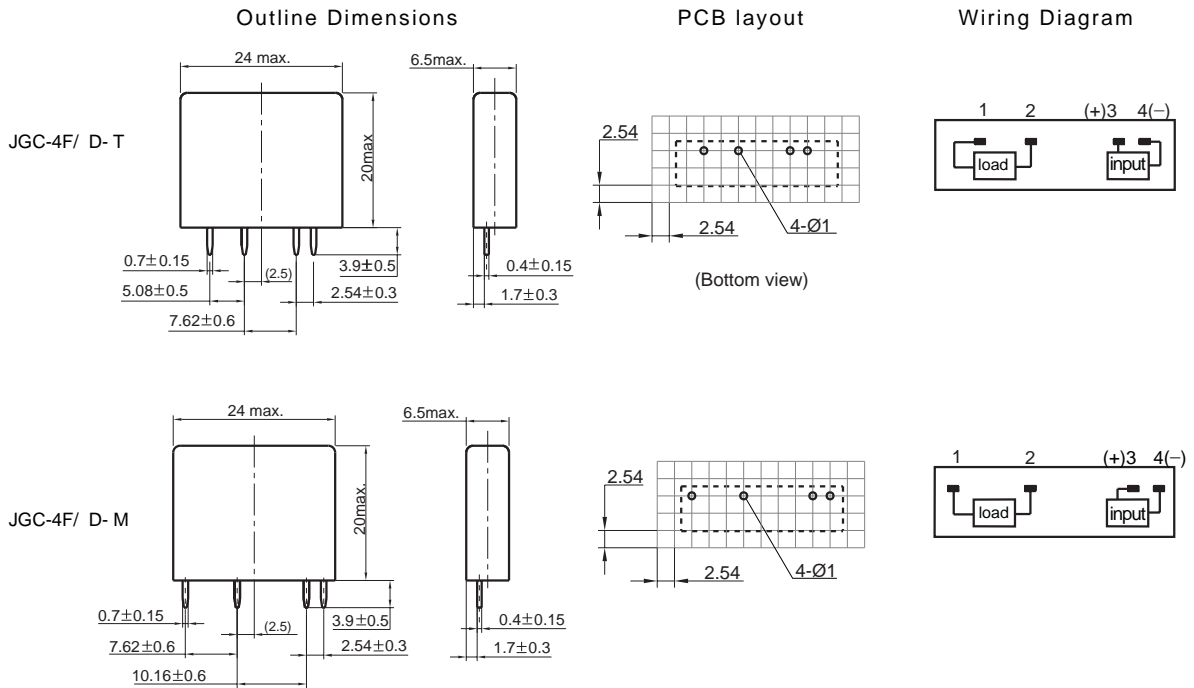
2. Soldering must be completed within 10 seconds at 260 °C or less or within 5 seconds at 350 °C or less.
3. The SSR case serves to dissipate heat. Install the relays so that they are adequately ventilated. If poor ventilation is unavoidable, reduce the load current by half.
4. The input circuitry does not incorporate a circuit protecting the SSR from being damaged due to a reversed connection. Make sure that the polarity is correct when connecting the input lines.
5. When using the JGC-4F series for an AC load with a peak voltage of more than 450V, connect the load terminals of the relay to an inrush absorber(varistor). The recommended varistor voltage, 440 to 470V.
6. The load terminals are internally connected to a snubber circuit that absorb noise. However, if wiring from these terminals is laid with or placed in the same duct as high-voltage or power lines, noise may be induced, causing the SSR to operate irregularly or malfunction.
7. When using the JGC-4F series in phase control applications, at a phase control angle close to 180 degrees the relay's input signal turn off at the trailing edge of the AC sine wave must be limited to end 200μs before AC zero cross. This assures that the relay has time to switch off. Shorter times may cause loss of control at the following half cycle.



ORDERING INFORMATION

| | | | | | | | |
|----------------------------|--|--|--|-----------|----------|----------|----------|
| | | JGC-4F / | | 12 | D | 1 | T |
| Type | | | | | | | |
| Input voltage | | 05 : 4 to 6VDC 12 : 9.6 to 14.4VDC 24 : 19.2 to 28.8VDC | | | | | |
| Input Form | | D: DC | | | | | |
| Zero Cross Function | | 0: Zero cross turn-on 1: Randm turn-on | | | | | |
| Termination | | T: Same as TOSHIBA TSZXX48S, M: Same as OMRON G3MB | | | | | |

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT



CHARACTERISTICS CURVE

